

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 2*

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-33 (Canceled)

Claim 34. (Currently amended) A stent constructed from a metal tube, the stent comprising:

a plurality of interconnected first expansion struts, the first expansion struts forming a first serpentine expansion column having a proximal end region and a distal end region, the first serpentine expansion column defining a continuous closed path about the circumference of the stent,

a plurality of interconnected second expansion struts, the second expansion struts forming a second serpentine expansion column having a proximal end region and a distal end region, the second serpentine expansion column defining a continuous closed path about the circumference of the stent,

a plurality of interconnected third expansion struts, the third expansion struts forming a third serpentine expansion column having a proximal end region and a distal end region, the third serpentine expansion column defining a continuous closed path about the circumference of the stent,

a first connecting strut column comprising a plurality of first connecting struts, each first connecting strut having a first end extending from a connection location at the distal end region of the first serpentine expansion column which is closer to one first expansion strut than to any other first expansion strut, a second end extending from a connection location at the proximal end region of the second serpentine expansion column which is closer one second expansion strut than any other second expansion strut and at least one curved region between the first end and the second end of the first connecting strut, the first and second ends of the first connecting struts being non-parallel to the longitudinal axis of the stent, the connection locations of the first and second ends of the first end of the first connecting strut longitudinally and circumferentially offset from one another ~~the second end of the first connecting strut~~, the first and second serpentine expansion columns connected only by first connecting struts,

a second connecting strut column comprising a plurality of second connecting struts, each second connecting strut having a first end extending from a connection location at the distal end

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 3*

region of the second serpentine expansion column which is closer to one second expansion strut than to any other second expansion strut, a second end extending from a connection location at the proximal end region of the third serpentine expansion column which is closer one third expansion strut than any other third expansion strut and at least one curved region between the first end and the second end of the second connecting strut; the first and second ends of the second connecting struts being non-parallel to the longitudinal axis of the stent, the connection locations of the first and second ends ~~first end of the second connecting strut longitudinally and circumferentially offset from one another the second end of the second connecting strut~~, the second and third serpentine expansion columns connected only by second connecting struts.

Claim 35. (Previously presented) The stent of claim 34 wherein the first expansion struts and the first connecting struts are provided in a ratio, the ratio of the first expansion struts to the first connecting struts is 2:1.

Claim 36. (Currently amended) The stent of claim 34 wherein the first expansion column comprises a plurality of joining struts in the distal end region and a plurality of joining struts in the proximal end region, the second expansion column comprises a plurality of joining struts in the distal end region and a plurality of joining struts in the proximal end region, and each first connecting strut has a first end which extends from a side of one joining strut in the distal end region of the first expansion column closer to one first expansion strut than to any other first expansion strut and a second end which extends from a side of one joining strut in the proximal end region of the second expansion column closer to one second expansion strut than to any other second expansion strut.

Claims 37-38. (Canceled)

Claim 39. (Currently amended) A stent constructed from a metal tube, the stent comprising:  
a plurality of interconnected first expansion struts, the first expansion struts forming a first serpentine expansion column having a proximal end region and a distal end region,  
a plurality of interconnected second expansion struts, the second expansion struts forming a second serpentine expansion column having a proximal end region and a distal end region,  
a plurality of interconnected third expansion struts, the third expansion struts forming a third serpentine expansion column having a proximal end region and a distal end region,

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 4*

the first, second and third serpentine expansion columns each defining a continuous closed path about the circumference of the stent;

a first connecting strut column comprising a plurality of first connecting struts which are flexible, each first connecting strut having a first end extending from the distal end region of the first expansion column and a second end extending from the proximal end region of the second expansion column and at least one curved portion,

a second connecting strut column comprising a plurality of second connecting struts which are flexible, each second connecting strut having a first end extending from the distal end region of the second expansion column and a second end extending from the proximal end region of the third expansion column and at least one curved portion;

the first serpentine expansion column, the second serpentine expansion column and the first connecting strut column forming a plurality of first geometric cells about the circumference of the stent,

each first geometric cell having a proximal region extending between two adjacent interconnected first expansion struts, a distal region extending between two adjacent interconnected second expansion struts and a middle region extending between two adjacent first connecting struts and portions of the first and second expansion columns, the proximal region and the distal region circumferentially offset from one another, the stent having only first geometric cells.

Claim 40. (Previously presented) The stent of claim 39 wherein each first connecting strut includes at least two curved portions.

Claim 41. (Previously presented) The stent of claim 40 wherein the first expansion struts and the first connecting struts are provided in a ratio, the ratio of the first expansion struts to the first connecting struts is 2:1.

Claim 42. (Previously presented) A stent constructed from a metal tube, the stent consisting of a plurality of expansion columns each of which forms a closed pathway about the circumference of the stent, adjacent expansion columns connected to one another via connecting members, the stent expansion columns and connecting members forming a plurality of cells, each of the plurality of cells having substantially the same asymmetrical shape, each of the plurality of cells having a first end portion and a second end portion, the second end portion

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 5*

longitudinally and circumferentially offset from the first end portion, the first end portion connected to the second end portion via a plurality of connecting members each of which has a plurality of curved sections.

Claim 43. (Previously presented) The stent of claim 42 where each connecting member has a first end and a second end which is circumferentially and longitudinally offset from the first end.

Claim 44-46. (Canceled)

Claim 47. (Currently amended) An unexpanded stent constructed from a metal tube, the stent comprising:

a plurality of interconnected first expansion struts, the first expansion struts forming a first expansion column having a proximal end region and a distal end region, each first expansion strut connected at a proximal end to one first expansion strut adjacent thereto and at a distal end to another first expansion strut adjacent thereto;

a plurality of interconnected second expansion struts, the second expansion struts forming a second expansion column having a proximal end region and a distal end region, each second expansion strut connected at a proximal end to one second expansion strut adjacent thereto and at a distal end to another second expansion strut adjacent thereto;

the first and second expansion columns each defining a continuous closed path about the circumference of the stent;

a first connecting strut column comprising a plurality of first connecting struts, each first connecting strut having a first end extending from the distal end region of the first expansion column at a first location in closer proximity to one first expansion strut than to any other of the plurality of first expansion struts, a second end extending from the proximal end region of the second expansion column at a second location in closer proximity to one second expansion strut than to any other of the plurality of second expansion struts, the first and second locations longitudinally and circumferentially offset from one another and at least one curved region between the first end and the second end of the connecting strut, ~~the first end of the first connecting strut longitudinally and circumferentially offset from the second end of the first connecting strut.~~

48. (Canceled)

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 6*

Claim 49. (Currently amended) An unexpanded stent constructed from a metal tube, the stent comprising:

a plurality of interconnected first expansion struts, the first expansion struts forming a closed, continuous first expansion column having a proximal end region and a distal end region, each first expansion strut connected at a proximal end to one first expansion strut adjacent thereto and at a distal end to another first expansion strut adjacent thereto;

a plurality of interconnected second expansion struts, the second expansion struts forming a closed, continuous second expansion column having a proximal end region and a distal end region, each second expansion strut connected at a proximal end to one second expansion strut adjacent thereto and at a distal end to another second expansion strut adjacent thereto;

a first connecting strut column comprising a plurality of first connecting struts, each first connecting strut having a first end extending from the distal end region of the first expansion column at a location in closer proximity to one first expansion strut than to any other of the plurality of first expansion struts,

each first connecting strut including a first end and a second end, the first end connected to the first expansion column at a first connection location and the second end connected to the second expansion column at a second connection location which is longitudinally and circumferentially offset from the first connection location, which is connected to the first expansion strut column and which extends

each first connecting strut including a portion which extends in a longitudinal direction toward the second expansion column and in a circumferential direction away from the two first expansion struts which are distally interconnected and nearest to the first end of the first connecting strut, the each connecting strut including a portion which extends in a longitudinal direction toward the second expansion column and in a circumferential direction toward the two first expansion struts nearest to the first end of the connecting strut.

Claim 50. (Previously presented) An unexpanded stent constructed from a metal tube, the stent comprising:

a plurality of interconnected first expansion struts, the first expansion struts forming a closed, continuous first expansion column having a proximal end region and a distal

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 7*

end region, each first expansion strut connected at a proximal end to one first expansion strut adjacent thereto and at a distal end to another first expansion strut adjacent thereto;

a plurality of interconnected second expansion struts, the second expansion struts forming a closed, continuous second expansion column having a proximal end region and a distal end region, each second expansion strut connected at a proximal end to one second expansion strut adjacent thereto and at a distal end to another second expansion strut adjacent thereto;

a plurality of interconnected third expansion struts, the third expansion struts forming a closed, continuous third expansion column having a proximal end region and a distal end region, each third expansion strut connected at a proximal end to one third expansion strut adjacent thereto and at a distal end to another third expansion strut adjacent thereto;

a first connecting strut column consisting of a plurality of first connecting struts, each first connecting strut having a first end extending from the distal end region of the first expansion column at a location in closer proximity to one first expansion strut than to any other of the plurality of first expansion struts,

and a second end which is connected to the second expansion strut column at a second location, the first and second locations longitudinally and circumferentially offset from one another;

a second connecting strut column consisting of a plurality of second connecting struts, each second connecting strut having a first end extending from the distal end region of the second expansion column at a location in closer proximity to one second expansion strut than to any other of the plurality of second expansion struts, and a second end which is connected to the third expansion strut column a location which is longitudinally and circumferentially offset from the location of the first end of the connecting strut,

wherein the first and second expansion strut columns are connected to one another only via the first connecting strut column and the second and third expansion strut columns are connected to one another only via the second connecting strut column.

51.(New) An unexpanded stent comprising:

a first expansion column having a plurality of first expansion strut pairs, each first expansion strut pair including two interconnected first expansion struts, each first expansion strut

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 8*

pair open at a proximal end of the first expansion column and closed at a distal end of the first expansion column, first expansion strut pairs which are adjacent one another connected to one another at a proximal end of the first expansion column, the first expansion column defining a continuous closed path about the circumference of the stent;

a second expansion column having a plurality of second expansion strut pairs, each second expansion strut pair including two interconnected second expansion struts, each second expansion strut pair open at a distal end of the second expansion column and closed at a proximal end of the second expansion column, second expansion strut pairs which are adjacent one another connected to one another at a distal end of the second expansion column, the second expansion column distal to the first expansion column, the second expansion column defining a continuous closed path about the circumference of the stent;

a first connector column having a plurality of first connectors, each first connector extending from a distal end region of one first expansion strut pair to a proximal end region of one second expansion strut pair and directly connecting the one first expansion strut pair to the one second expansion strut pair, the one second expansion strut pair having a second expansion strut which is collinear with one of the first expansion struts of the one first expansion strut pair to which it is connected, a first end of the first connector connecting to the first expansion strut pair at a location which is longitudinally and circumferentially offset from a location at which the second end of the first connector connects to the second expansion strut pair.

52. (New) The unexpanded stent of claim 51 wherein each first connector extends from a distal end of a first expansion strut to a proximal end of a second expansion strut.

53. (New) The unexpanded stent of claim 51 wherein each connector includes a first linear section, a second linear section and a third linear section.

54. (New) The unexpanded stent of claim 51 wherein a proximal end of each first connector extends from the first expansion column at an oblique angle relative to the longitudinal axis of the stent.

55. (New) The unexpanded stent of claim 54 wherein a distal end of each first connector extends from the second expansion column at an oblique angle relative to the longitudinal axis of the stent.

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 9*

56.(New) The unexpanded stent of claim 51 wherein each first connector includes at least one curved portion.

57. (New) The unexpanded stent of claim 51 further comprising:

a third expansion column having a plurality of third expansion strut pairs, each third expansion strut pair including two interconnected third expansion struts, each third expansion strut pair open at a distal end of the third expansion column and closed at a proximal end of the third expansion column, third expansion strut pairs which are adjacent one another connected to one another at a distal end of the third expansion column, the third expansion column defining a continuous closed path about the circumference of the stent;

a second connector column having a plurality of second connectors, wherein each second connector extends from a proximal end region of one third expansion strut pair to a distal end region of one second expansion strut pair and directly connects the one third expansion strut pair to the one second expansion strut pair, the one second expansion strut pair having a second expansion strut which is collinear with one of the third expansion strut of the one third expansion strut pair to which it is connected, a second end of the second connector connecting to the third expansion strut pair at a location which is longitudinally and circumferentially offset from a location at which the first end of the second connector connects to the second expansion strut pair.

58. (New) The stent of claim 57 wherein the first, second and third expansion struts are all parallel to the longitudinal axis of the stent and the second expansion column includes second expansion struts which do not have any first connectors extending directly therefrom and which do not have any second connectors extending directly therefrom.

59. (New) The stent of claim 57 wherein the first, second and third expansion struts are all parallel to the longitudinal axis of the stent and the second expansion column includes second expansion struts which have a connector extending from a distal end thereof and a connector extending from a proximal end thereof.

60. (New) An unexpanded stent comprising:

a first expansion column having a plurality of first expansion struts which extend parallel to the longitudinal axis of the stent, adjacent first expansion struts connected by a first joining



*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 10*

strut, the first expansion column defining a continuous closed path about the circumference of the stent,

a second expansion column having a plurality of second expansion struts which extend parallel to the longitudinal axis of the stent, adjacent second expansion struts connected by a second joining strut, the second expansion column defining a continuous closed path about the circumference of the stent,

a third expansion column having a plurality of third expansion struts which extend parallel to the longitudinal axis of the stent, adjacent third expansion struts connected by a third joining strut, the third expansion column defining a continuous closed path about the circumference of the stent,

a first connector column having a plurality of first connectors connecting the first expansion column to the second expansion column,

a second connector column having a plurality of second connectors connecting the second expansion column to the third expansion column,

the first expansion struts, first connectors, first joining struts, second expansion struts and second joining struts defining a plurality of first cells, each first cell defined by two first joining struts, two second joining struts, two first connectors, two first expansion struts and two second expansion struts, one of the first joining struts in the first cell circumferentially aligned and longitudinally offset from one of the second joining struts and the other of first joining struts in the first cell circumferentially and longitudinally offset from the other of the second joining struts,

the second expansion struts, second joining struts, second connectors, third expansion struts and third joining struts defining a plurality of second cells, each second cell defined by two second joining struts, two third joining struts, two second connectors, two second expansion struts and two third expansion struts, one of the second joining struts in the second cell circumferentially aligned and longitudinally offset from one of the third joining struts and the other of second joining struts in the second cell circumferentially and longitudinally offset from the other of the third joining struts,

the first and second cells abutting one another.

*Application No: 09/925,562*  
*Filed: August 9, 2001*

*Amendment*  
*Page 11*

61. (New) The unexpanded stent of claim 60 wherein the first and second connectors include linear sections which extend at oblique angles relative to the longitudinal axis of the stent.

62. (New) An unexpanded stent comprising:

a first expansion column having a plurality of first expansion struts which extend parallel to the longitudinal axis of the stent, adjacent first expansion struts connected by a first joining strut, the first expansion column defining a continuous closed path about the circumference of the stent,

a second expansion column having a plurality of second expansion struts which extend parallel to the longitudinal axis of the stent, adjacent second expansion struts connected by a second joining strut, the second expansion column defining a continuous closed path about the circumference of the stent,

a third expansion column having a plurality of third expansion struts which extend parallel to the longitudinal axis of the stent, adjacent third expansion struts connected by a third joining strut, the third expansion column defining a continuous closed path about the circumference of the stent,

a first connector column having a plurality of first connectors connecting the first expansion column to the second expansion column, each first connector including curved regions joined by linear sections, each first connector having a first end which extends from the first expansion column at a location which is circumferentially and longitudinally offset from a location from which a second end of the first connector extends from the second expansion column,

a second connector column having a plurality of second connectors connecting the second expansion column to the third expansion column, each second connector including curved regions joined by linear sections, each second connector having a first end which extends from the second expansion column at a location which is circumferentially and longitudinally offset from a location from which a second end of the second connector extend from the third expansion column,

wherein every other second expansion strut in the second expansion column has a first connector extending directly therefrom and a second connector extending directly therefrom, the remaining struts not having any first or second connectors extending directly therefrom.